REMARKS

At present, applicants' claims 1-4 stand rejected under 35 U.S.C. § 102 based upon the patent to Jones et al. (of record). Additionally, applicants' claims 1-4 stand rejected under 35 U.S.C. § 112. In light of the amendments made herein and the comments presented below, these rejections are respectfully traversed.

Preliminarily, it is first noted that applicants' claimed invention is capable of performing operations relating to resource management in a multiprocessor data system which are well beyond the scope of the material presented in the patent to Jones et al. For example, through the utilization of applicants' method, it is now possible to permit an application level user to control the number of processors employed in the running of the user's application programming such as in those environments in which there are a plurality of processors such as are found in a symmetric multiprocessor (SMP) architecture. (See applicants' specification page 4, lines 9-12.) More generally, through the operation of applicants' claimed method, application level users (end users in common parlance) are now able to control resources available at multiple levels across a data processing system which includes multiple data processing elements. In particular, it is to be significantly noted that the concept of level as a basis for determining resource availability is a concept that is completely beyond the material presented in the patent to Jones et al.

Since the concept of resource availability and utilization, especially at multiple levels, is not a concept present in the patent to Jones et al. and, since this concept is in fact positively recited in applicants' claims, it is seen that the subject patent to Jones et al. cannot serve as a basis for the rejection of applicants' claims either under 35 U.S.C.

§ 102 or even under 35 U.S.C. § 103. Accordingly, for this reason alone, it is respectfully requested that this rejection be withdrawn.

The differences between applicants' claimed invention and the material found in the patent to Jones et al. can also perhaps be characterized in the following fashion. In particular, it is seen that while Jones et al. appear to teach that different types of resources with varying capacities may be requested for use from an operating system, as is conventionally the case, it is still not the case that use of this resource is under control of any entity other than the operating system. However, the examiner's attention is directed to applicants' specification page 2, lines 21-22, wherein it states that ". . . the allocation of memory as a resource has typically only been accomplished through the operating system, and has not been under user control." For example, it is cited that, from time to time, application users may want to run large simulation programs and that they need to be able to keep all of the relevant simulation data in memory at the same time in order for the application to run efficiently. While it has been possible in the past for application programs to request memory (a resource type) in a certain amount (resource quantity), it has not been possible to indicate that there is a level associated with a resource and that this resource can be placed under the direct control of the application program or in other words under direct control of an end user.

The example cited on page 2 also goes on to indicate that some computer jobs also have a requirement that more than one central processing unit is involved in the computations. Request for the number of CPUs to process a request is a quantity which is not normally under control of the application user. It is certainly not under the control of the application user in the patent to Jones et al. As pointed out in applicants' previous response, it is seen in applicants' claimed invention that a customer or user is provided with interfaces which allow the customer to control, modify, interact with, and

request resources <u>not just at an administrative level but also at the operating system</u> <u>level and even deeper at the hardware level</u>. Accordingly, the notion of "level" plays a significant role in the operation of applicants' claimed invention. Furthermore, the notion of level is one that is completely alien to the patent to Jones et al. In this regard, it is also pointed out to the Examiner that applicants even distinguish the CPU as a type of resource when it is present for requests at the operating system level and subsequently for requests at the hardware level. Thus, what Jones et al. and most others would consider a single resource, applicants treat as a different resource depending upon the level specified. Accordingly, it is seen that the operation of the applicants' claimed invention is in fact significantly different than that taught by Jones et al. In particular, some of the advantageous behavior which is accomplished through applicants' claimed method is not achievable through the methods and systems disclosed or suggest by Jones et al.

Attention is now directed to some of the Examiner's particular comments concerning the claimed invention. The Examiner's argument in paragraph 5 of the aforementioned Office Action is critical of applicants' argument and asserts that the words "control, modify and/or interact" are not present applicants' claims. In this regard, it is noted that applicants do not indicate that controlling, modifying or interacting is a necessary part of the applicants' claimed process. Nonetheless, applicants do assert that controlling, modifying and interacting are in fact beneficial advantages that are achieved by the operation of the claimed invention. <u>An advantage</u> <u>present in a claimed process is not part of the limitations defining that process</u>. Applicants do not cite these advantages as being part and parcel of applicants' claim, but rather provide them as an indication of the benefits to be achieved by applicants' claimed invention which are in fact not achieved by the operation of inventions found within or suggested by the patent to Jones et al.

On page 6 of the above-mentioned Office Action, the Examiner also is critical of applicants' arguments that assert that Jones et al. do not distinguish that the treatment to be made for resource request depending upon the level involved. The Examiner then argues that the Figure 1 of Jones et al. suggests that resources are different types. Again, it is pointed out that <u>there is a decided distinction between type of resource and the level that that type of resource may be present at.</u> Again, in this regard, attention is again focused on the assertion above that the CPU in applicants' example may be present as a resource at a hardware level and also present in a different fashion at the operating system level. (In this regard, the Examiner's attention is directed to page 6 of applicants' specification, lines 20-23.)

With respect to the Examiner's comments outlined in the first two paragraphs on page 7 of the aforementioned Office Action, the Examiner criticizes applicants' arguments by asserting that any user request is at an application level. In this regard, the Examiner fails to distinguish between the notions of type and level. For example, in a conventional system, an operating system may very well recognize that a request comes from an application program. And it is indeed a typical case that this request might be for a hardware resource. However, through the use of the concept of a level, applicants' system is able (through the operation of the first step of defining to the relevant multiprocessor) to provide direct control of a hardware level resource to an end user. <u>The end user becomes the controller of the resource</u> through the definition step. As indicated above, this is an advantage of applicants' claimed process in which <u>the defining operation plays an important role</u>. As described above, in exemplary fashion, use of the level concept allows an application program to be assured that data such as simulation data in a large simulation application remains present in memory for purposes of program efficiency. Such a concept is completely and utterly absent from the teachings found in Jones et al. In contrast, Jones et al. talk about requesting

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resources but the subsequent utilization of that resource is controlled from only a single level in their scheme.

Attention is next directed to the Examiner's second criticism of applicants' arguments found on page 7 of the aforementioned Office Action. The Examiner is accusing the applicants of trying to put words in the claims without actually doing so. In this regard, as pointed out above, applicants are doing no such thing. <u>Applicants' claims are, however, providing the requisite structure for the advantages described</u>. Applicants have asserted that Jones et al. fail to teach, disclose or suggest the utilization of requests that are treated differently depending upon whether or not those requests are directed at various levels. In this regard, it is pointed out that applicants' claim 1 does recite these various levels. It is the presence of the level designation in various user job requests that determines whether or not a specifically defined resource is available to an application level user (in the type and quantity requested).

The Examiner also criticizes applicants' statement that Jones et al. fail to teach, disclose or suggest the notion that a resource request may "float amongst several processors in a multiprocessor data system." Applicants certainly don't argue that the word "float" does not appear in applicants' claims. However, applicants' claim 1 specifically does include recitations of defining resources to multiprocessors and the determination of availability amongst the multiple processors and in the dispatching of user jobs which requests the recited resources which have been indicated as being available to that application user. Applicants' choice of the word "float" may not have been the most precise word to describe applicants' claimed process; however, applicants still, nonetheless, contend that the phrase "float amongst several processors" does provide a quasi visual metaphor which does aptly characterize the operation and advantages of the claimed invention. In particular, it is noted that, in the

claimed invention, <u>an application level user may successfully request and control a</u> <u>hardware level resource such as memory even though that memory is located in a</u> <u>different processor. Applicants challenge the Examiner to find any such similar or</u> <u>related concept in Jones et al</u>. More particularly, in applicants' claimed method, there is provide a mechanism for the application level user to actually control a hardware resource in another processor. This is accomplished by the defining step and through the use of levels as an indicator of where the request for a resource is coming from.

Accordingly, it is seen that for all of the reasons indicated above, the recitations found in the patent to Jones et al. do not in any way anticipate or render obvious applicants' claimed invention. In particular, as first indicated above, the patent to Jones et al. is utterly devoid of any reference to or use of the concept of level as a mechanism for determining whether or not a resource is to be made available.

Attention is next directed to the specific amendments made herein to applicants' claims. The present amendments have been made in response to the Examiner's newly asserted rejection under 35 U.S.C. § 112. The recitations added herein are in full compliance with the Examiner's concerns and requests. Furthermore, the amendments herein do not in any way add any new matter to applicants' claims. Specifically in this regard, it is noted that applicants' specification clearly includes a recitation of an "administrative system level" as found on page 6, lines 8-9. Additionally, applicants have also added the phrase "said determining of availability indicates that" in order to more closely connect steps three and four and to avoid any possible ambiguity with respect to from where the condition arises. Applicants have also added to commas to improve readability, understanding, and connectedness of structure to applicants' third claim step. Similar amendments have been made to claim 4.

Since the discussion of type and level has been present throughout the present prosecution history, it is seen that the amendments made herein are for purposes of clarification only. Furthermore, it is also seen that any of the other changes to applicants' claims have been made essentially for the purposes of improving readability and clarity. No new matter or issues are introduced by any of the present amendments.

It is noted that the present response does not require the payment of any additional fees. It is further noted that the present response is being submitted within two months of the final rejection. Accordingly, an Advisory Action is required before March 15, 2004. If an Advisory Action is necessary, it is requested that it be provided to applicants prior to that time. If necessary, applicants' attorney may be called with the information contained within such an Advisory and/or the Advisory may in fact be faxed to the applicants' attorney at the number below if this would help to improve the Examiner's timeliness of response.

Accordingly, it is now seen that all of the applicants' claims are in condition for allowance. Therefore, early notification of the allowability of applicants' claims is earnestly solicited. Furthermore, if there are any matters which the Examiner feels could be expeditiously considered and which would forward the prosecution of the instant application, applicants' attorney wishes to indicate his willingness to engage in

any telephonic communication in furtherance of this objective. Accordingly, applicants'
attorney may be reached for this purpose at the numbers provided below.

Respectfully Submitted,

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Date

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